

**NEW INFORMATION ON THE NARROWLY-RESTRICTED SKINK, *NANGURA SPINOSA*.** *Memoirs of the Queensland Museum* 42(1): 90. 1997. Surveys of vertebrates of dry rainforests of south and mideastern Queensland during 1992 (Horsup et al., 1993) led to the discovery of the skink *Nangura spinosa* Covacevich, Couper & James, 1993. This is a distinctive, burrowing skink which was found in a 300m section of dry, gently-sloping creek bank in semi-evergreen vine thicket in Nangur State Forest (26°07'S 151°58'E), 20 km north of Murgon, SEQ. This was, until recently, the only known locality for *N. spinosa*.

On the 27 February, 1997 one of us (GA) observed a tail protruding from a burrow on a road embankment in Oakview State Forest, SEQ (26°07'23"S 152°19'01"E). An adult skink was removed from the burrow. It was photographed (QM transparencies NR 360 - NR 373) and released. While being handled, the specimen shed its tail. This has been registered in the Queensland Museum (QMJ62787), where our identification of the skink as *N. spinosa* was confirmed. Oakview S.F. is a new locality for *N. spinosa*. The collection site is approximately 40km east of Nangur S.F.

Additional searches along the road embankment for *N. spinosa* in Oakview S.F. on 28 February and 6 March, 1997 revealed 22 'active' burrows. Two further burrows were observed 7m and 27m up-slope from the road. Thirty-six specimens were seen: 23 adults, 1 sub-adult and 12 juveniles. Each burrow was occupied primarily by a single adult (n=18). One was occupied by 2 adults; one by 2 adults and 3 juveniles; three by 1 adult and 2 juveniles; and three by 1 adult and 1 juvenile. One adult, 1 sub-adult and 2 juvenile *N. spinosa* were weighed and their snout/vent (SVL) recorded. The adult measured 92.0mm SVL and weighed 26gm; the sub-adult measured 78.2 mm SVL and weighed 14.1 gm; juveniles suspected to be neonates (with umbilical scars) weighed 1.5gm (s.d.=0, n=2) and had an average 37.8mm SVL (s.d.=1.6, n=2).

The vegetation at all sites was Araucarian Notophyll Vine Forest (Horsup et al., 1993) on Quarternary alluvials, at an altitude of approx. 600m. Burrows in the road embankment (mean road embankment height = 106.9cm, s.d. = 26.6, n = 23) were in three clusters along 1.4km of road and were set into the bank at an average height of 55.7cm (s.d. = 25.5, n = 23) above the road. Burrow entrances were usually remote from ground cover (n = 15), associated with rocks (n = 5) or associated with tree bases or surface roots (n = 4). The only exception was a burrow at the base of an old termite mound. Average size of burrow entrances was 8.1cm wide (s.d. = 3.3, n=23) and 4.9cm high (s.d. = 2.1, n = 23). Each burrow had a smooth 'resting platform' near the entrance, with an average width of 11.1cm (s.d. = 4.7, n = 23) and a length of 8.6cm (s.d. = 3.6, n = 23). All had north-easterly aspects.

During daylight at Oakview S.F., we observed individuals either with tails visible at burrow entrances, heads slightly protruding from burrow entrances or on the resting platforms. One juvenile was observed approximately 15cm beyond a 'resting platform'. When approached, it retreated into the burrow. Nocturnal observations of road side burrows between 21:22 and 22:09hrs revealed 16 *N. spinosa* with tails visible at burrow entrances. The ambient temperature at this time was 21°C. Specimens of *N. spinosa* apparently 'rest' at burrow entrances from where they 'ambush' prey (Covacevich et al., 1993; Wilson, 1994). The presence of individuals at burrow entrances in Oakview S.F. may relate to either thermoregulatory or foraging behaviour.

Faecal samples of *N. spinosa* from Nangur S.F. contained a diverse range of arthropod remains (Covacevich et al., 1993). Locating visible evidence of faecal or feeding remains

at the Oakview site was hindered by heavy rains. A beetle carapace was the only possible prey remnant found close to a burrow.

Searches of road embankments in both similar and different soils and with similar aspects and vegetation in Oakview S.F. failed to reveal further evidence of *N. spinosa*. Much of the forest has been planted with Hoop Pine, *Araucaria cunninghamii*, leaving remnant strips of Araucarian Notophyll Vine Forest between plantation compartments. Larger remnants of NVF occur only on the steeper slopes where plantation establishment was not practical. The presence of two active burrows on slopes away from the road embankment shows that this species is not restricted to road embankments or the creek banks reported by Covacevich et al. (1993).

*N. spinosa* was a 'species known only from the type collection', and 'rare in Australia, but not currently considered endangered or vulnerable ...' (Covacevich et al., 1993). Under the *Nature Conservation (Wildlife) Regulation 1994*, this species was 'rare' in Queensland. With the discovery of this second population, the status of *N. spinosa* should be changed to that of a 'species with a very restricted distribution in Australia and with a maximum geographical distribution of less than 100km ...'. It remains 'a species ... rare in Australia ... not currently considered endangered or vulnerable ...' (Thomas & McDonald, 1989). Clearing of rainforest has ceased on Queensland state forests. However, dry rainforests have no legislative protection (Covacevich & McDonald, 1993). On freehold land they are still cleared and survive only as remnants. In state forests, vine thickets continue to suffer deleterious changes due to inappropriate fire regimes, disturbance by domestic stock and Hoop Pine logging. Further work is required to define the distribution of *N. spinosa* and to investigate relationships between supporting vegetation, soils and aspect. This information would be useful in refining the conservation status of *N. spinosa* and in devising management plans to conserve this species.

#### Acknowledgments

Thanks are due to Geoffrey Smith and Teresa Eyré for assistance with the preparation of this note. Funding for this work was provided through the Forest Wildlife Section's involvement in the Comprehensive Regional Assessment Vertebrate Fauna Survey program in Queensland. Jeanette Covacevich and Patrick Couper assisted us to prepare these data for publication.

#### Literature cited

Covacevich, J.A., Couper, P.J. & James, C. 1993. A new skink, *Nangura spinosa* gen. et sp. nov., from a dry rainforest of southeastern Queensland. *Memoirs of the Queensland Museum*, 34(1): 159-167.

Covacevich, J.A. & McDonald, K.R. 1993. Distribution and conservation of frogs and reptiles of Queensland rainforests. *Memoirs of the Queensland Museum*, 34(1): 189-199.

Horsup, A., James, C. & Porter, G. 1993. Vertebrates of dry rainforest of south and mideastern Queensland. *Memoirs of the Queensland Museum*, 34(1): 215-228.

Thomas, M.B. & McDonald, W.J.F. 1989. 'Rare and threatened Plants of Queensland'. 2nd ed. (Department of Primary Industries: Brisbane).

Wilson, S. 1994. Unknown lizard. *Geo*, 16(3): 68-76.

D. Hannah, G. Agnew, B. Hamley & L. Hogan, *Forest Wildlife Section, Resource Sciences Centre, Department of Natural Resources, PO Box 631, Indorooopilly, Queensland, 4068, Australia*; 31 March 1997.